Notice of Allowability	Application No.	Applicant(s)	
	10/620,015	SEO ET AL.	
	Examiner	Art Unit	
	Shouxiang Hu	2811	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *4/5/2007*.

2. ☒ The allowed claim(s) is/are *1,2,5,6,9-11 and 14-17*.

3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☒ All b) ☐ Some* c) ☐ None of the:
      1. ☒ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 20070413
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

SHOUXIANG HU
PRIMARY EXAMINER

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Julie L. Reed (RN: 35,349) on April 13, 2007.

The application has been amended as follows:

IN THE CLAIMS

1. (Currently amended) A fuse bank of a semiconductor memory device comprising:

a first laser fuse which includes a first laser fusing region which is stripe-shaped and disposed in a first direction, a first connecting line partially in the first laser fusing region, the first connection line is disposed to be bent in a second direction, and a second connecting line partially in the first laser fusing region, the second connecting line is disposed to be bent in a third direction; and

a second laser fuse which includes a second laser fusing region which is stripe-shaped and disposed in the first direction, a third connecting line partially in the second laser fusing region, the third connection line is disposed to be bent in the second

direction, and a fourth connecting line partially in the second laser fusing region, the fourth connection line is disposed to be bent in the third direction,

wherein the first laser fuse and the second laser fuse are disposed adjacently in the fuse bank with a space of a predetermined distance there between, the first laser fusing region and the second laser fusing region form a laser fusing region of the fuse bank, and

the first laser fuse and the second laser fuse are disposed on a plane, such that a lateral size of the fuse bank in the first direction is equal to:

(~~a~~ number of fuses in the fuse bank minus one) multiplied by a pitch between the connecting lines, plus twice the width of the connecting lines, plus a length of the laser fusing region, and

wherein the second direction is perpendicular to the first direction and opposite the third direction.

2. (Original) The fuse bank of claim 1, wherein the laser fusing region has a parallelogram shape.

3. (Canceled)

4. (Canceled)

5. (Currently amended) A fuse bank of a semiconductor memory device comprising:

a first laser fuse group having multiple laser fuses disposed on a plane arranged in a first direction with a space of a predetermined distance there between; and

a second laser fuse group having multiple laser fuses disposed on the plane arranged in the first direction with a space of a predetermined distance there between, and

wherein each laser fuse in each of the laser fuse groups ~~each~~ includes a stripe-shaped laser fusing region disposed in the first direction, a first connecting line partially in the ~~first~~ laser fusing region disposed to be bent in a second direction, and a second connecting line partially in the laser fusing region disposed to be bent in a third direction, and that a lateral size of the fuse bank in the first direction is ~~is~~ equal to:

(~~a~~ number of fuses in the fuse bank minus one) multiplied by a pitch between the connecting lines, plus twice the width of the connecting lines, plus a length of the laser fusing region, and

wherein the second direction is perpendicular to the first direction and opposite the third direction.

6. (Original) The fuse bank of claim 5, wherein the laser fusing region has a parallelogram shape.

7. (Canceled)

8. (Canceled)

9. (Original) The fuse bank of claim 5, wherein the first laser fuse group and the second laser fuse group are disposed repeatedly.

10. (Currently amended) A fuse bank of a semiconductor memory device comprising:

a first laser fuse group having multiple laser fuses arranged in a first direction with a space of a predetermined distance there between; and

a second laser fuse group having multiple laser fuses arranged in the first direction with a space of a predetermined distance there between,

wherein each laser fuse in each of the laser fuse groups includes a stripe-shaped laser fusing region disposed in the first direction, a first connecting line partially in the ~~first~~ laser fusing region disposed to be bent in a second direction, and a second connecting line partially in the ~~first~~ laser fusing region disposed to be bent in a third direction,

the first laser fuse group and the second laser fuse group are disposed adjacently,

the first laser fuse group and the second laser fuse group are disposed to be symmetrical about the direction perpendicular to the first direction, and

the first laser fuse group and the second laser fuse group are disposed on a plane, such that a lateral size of the fuse bank in the first direction is ~~is~~ equal to:

(~~a~~ number of fuses in the fuse bank minus one) multiplied by a pitch between the connecting lines, plus twice the width of the connecting lines, plus a length of the laser fusing region, and

wherein the second direction is perpendicular to the first direction and opposite the third direction.

11. (Original) The fuse bank of claim 10, wherein the laser fusing region has a parallelogram shape.

12. (Canceled)

13. (Canceled)

14. (Original) The fuse bank of claim 10, wherein the first laser fuse group and the second laser fuse group are disposed repeatedly.

15. (Currently amended) A fuse bank, comprising:

a fuse region formed from a first fuse region and a second fuse region, the first and second fuse regions arranged parallel to each other in a first direction in the bank, each with a first end and a second end; and

connecting lines connected to each of the first and second fuse regions, such that each of the first and second fuse regions has a connecting line on each end,

wherein the connecting lines on the first ends are perpendicular to the first and second fuse regions and parallel to each other in a second direction, and the connecting lines on the second ends are perpendicular to the first and second fuse regions and parallel to each other in a third direction, and that a lateral size of the fuse bank in the first direction is ~~is~~ equal to:

(~~a~~ number of fuses in the fuse bank minus one) multiplied by a pitch between the connecting lines, plus twice the width of the connecting lines, plus a length of the laser fusing region, and

wherein the second direction is perpendicular to the first direction and opposite the third direction.

16. (Previously presented) The fuse bank of claim 15, the first and second fuse regions being offset from each other by a predetermined distance.

17. (Previously presented) The fuse bank of claim 15, connecting lines at each end of the fuse region being offset from each ~~by~~ other by a predetermined distance.

18. (Canceled)

19. (Canceled)

20. (Canceled)

Allowable Subject Matter

Claims 1-2, 5-6, 9-11 and 14-17 are allowed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shouxiang Hu whose telephone number is 571-272-1654. The examiner can normally be reached on Monday through Friday, 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard T. Elms can be reached on 571-272-1869. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SH
April 13, 2007

SHOUXIANG HU
PRIMARY EXAMINER